

ABSTRACT

A semiconductor device includes a silicon layer on an insulating layer. The silicon layer has a first area and a second area. The FD-MOSFET is formed in the first area and the PD-MOSFET formed in the second area. The semiconductor device of the present invention satisfies the following formulas; the thickness of the silicon layer is 28 nm to 42 nm, the impurity concentration D_f cm⁻³ of the first area is $D_f \leq 9.29 * 10^{15} * (62.46 - ts)$ and $D_f \leq 2.64 * 10^{15} * (128.35 - ts)$, the impurity concentration D_p of the second area is $D_p \leq 9.29 * 10^{15} * (62.46 - ts)$ and $D_p \leq 2.64 * 10^{15} * (129.78 - ts)$.